Business Models and their Implications for Skills

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Abstract

The dominant political-economic narrative of our time is that, under conditions of global competition with low-wage economies able to undercut even efficient western firms, the only viable and sustainable route to competitiveness is to trade on high value-added goods and services and that these in turn require enhanced skills and knowledge. This kind of analysis finds echo and sustenance in the management literature concerning 'knowledge'. For example, in a much-cited observation, Stewart (1997) claims that knowledge is 'the most important factor in economic life. It is the chief ingredient of what we buy and sell, the raw material with which we work. Intellectual capital – not natural resources, machinery or even financial capital – has become the one indispensable asset of corporations'.

While this kind of analysis sets the agenda in management theory and policy circles, there is less certainty at the level of *business practice*. At firm level there is rather more evidence of multiple strategies – many of which do not depend upon upskilling. This may help explain why the take-up and demand for training provision, which is on offer, often falls short of the supply.

However, the nature of the knowledge identified by those politicians and commentators who stress the importance of knowledge in the context of the global knowledge economy requires attention. In these analyses and exhortations, knowledge is defined as a factor of production – as a resource to be used in the design and production of goods and services. And so indeed it is. But it is more than this: it is also a key factor in the decision-making and capacity of senior managers, which impinges significantly on how they respond (or indeed even recognise) the competitive pressures their businesses face. The behaviour of senior managers with regard to how (and if) they respond to the opportunities and challenges of the knowledge economy raises a distinct and important set of issues pertaining to a different but crucially important type of knowledge – the knowledge required and the kinds of knowledge currently held at top levels (Storey and Salaman, 2005). Building on a series of research projects and a number of board level consultancy assignments, our analysis suggests that exhortation has only limited effects. The critical point of focus for us is the mental models constructed and used by individual members of top teams and by these teams collectively. However much directors may concur with the general rhetoric at one level, when it comes to practical business – *their* practical business – they can remain deeply sceptical and resistant. In this paper, we explore and illustrate these points drawing upon detailed case evidence.

1 Introduction

The dominant political-economic narrative of our time is that, under conditions of global competition, with low-wage economies able to undercut even efficient western firms, the only viable and sustainable route to competitiveness is to trade on high value-added goods and services and that these in turn require enhanced skills and knowledge. The stress is upon the increasing role of knowledge and skill as the necessary bases of firms' sustainable competitive advantage; the intent is to try to encourage business leaders to move from cost-based strategies to value-adding strategies; the advocacy urges UK firms to move towards knowledge-based products and services and thus leads to a plea for business leaders to emphasise the development and deploying of more highly skilled employees in their organisations (Leitch 2006).

But why should such advice be necessary? Why should politicians and civil servants be better able to understand the nature, dynamics and trajectories of competitive forces than business leaders who survive, thrive or fail by their ability to understand and exploit changing competitive forces in their industries? Surely, in a relatively unregulated economy such as the UK's, it is reasonable to expect business leaders to understand and respond appropriately to the competitive dynamics they face.

Or is it? Maybe it is not enough simply to assume that the pressure of market forces and firms' decision-making resources and capabilities will ensure that firms will recognise the advantages of moving up the value chain and make the necessary changes to strategy and organisational capability. Maybe firms find that transition difficult. But if they do, what are these problems and obstacles, where do they come from and how do managers handle them? Is the problem (if there is one) in executive *awareness* of the benefits of moving a price-based focus business model to a value-adding model, (which would thus make the exhortations of politicians and consultants understandable) or do the obstacles lie elsewhere – not in lack of awareness of the advantages in making this fundamental transition but in the willingness and ability to make it happen? And if the problem lies in *achieving* the necessary organisational adjustments, where, in the required processes of radical strategic and organisational change, do the problems occur – is it in

changing strategy, changing organisational and individual competences, or implementing these designed modifications?

These are the kind of questions addressed by this report. We suggest that there are organizational dynamics which can be traced which lead to the identification of general obstacles. These in turn can help explain the resistance, which is found in practice, to the conventional clarion. These points lead to additional questions: when and if firms do recognise the advantages of moving to value-adding strategies and organisational capabilities, what does this look like? What organisational forms have firms developed to enable them to exploit the new opportunities, and avoid the risks associated with the move towards a knowledge-based economy? What skills, knowledge and competences (and which associated organisational arrangements) do firms develop and deploy to support value-adding business strategies?

Those who stress the emergence and significance of the knowledge economy tend to identify organisational knowledge and skill (and thus training and development and recruitment) as the central elements of the necessary organisational supports for the required business response as firms move from cost-based to value-adding strategies (Leitch 2006) But when firms do compete successfully in the knowledge economy by supplying value-adding services to their clients, is this focus on skills and knowledge a sufficient and comprehensive description of the attributes their staff need to posses? Or are there other necessary attributes?

This report focuses on the role of directors and senior managers. Much has been, and could yet be, usefully written about the nature, scale and implications of the knowledge economy and how firms in the UK and elsewhere are responding to these new challenges and how they should respond. But in this report our concerns are more specific: to address the ways in which managers identify, define and recognise these pressures, and how they respond to them and the organisational features which facilitate or constrain their strategic and organisational responses and make sense of these new pressures. Our analytical lens (see Salaman and Storey 2002, 2008; Storey and Salaman 2005, 2009) leads us to focus on processes of *management sense-making*. We examine how fundamental features of the knowledge models and assumptions of senior managers influence, encourage and constrain. We are interested both in (i) how some respond to the

new competitive pressures by resisting a migration up the value chain and (ii) how others who do embark on this journey translate this aspiration into practical action.

1.1 Research questions

The key questions we addressed were:

1. How do senior managers and business owners explain their business models?
2. What connections do they make between their business models and their employment strategies – most especially regarding skills levels and the skill mix?

1.2 Methods

The research reported here was both conceptual and empirical in nature. It drew upon an extensive examination and synthesis of various relevant literatures from multiple disciplines and fields of enquiry. This desk research was supplemented with original empirical research in selected industry sectors. Central to the resulting report are the illustrative models and their associated skill components derived from a number of sectors.

2 Business models and their implications for skills

In the DTI Innovation Report (2003), it is argued that UK companies will have to compete more on quality, with high value added and more innovative products and processes. This, in turn, 'will require inspirational leadership, stronger management and leadership skills, a highly skilled workforce, a flexible labour market that promotes diversity and fair treatment, and high performance workplaces' (ibid:11). Further, the government seeks: 'A highly educated workforce with a culture of lifelong learning [which] is more likely to adapt to economic change' (ibid). The same message is found in the White Paper, *Our competitive future: Building the knowledge-driven economy*.

At firm level, competitive advantage, it is argued, is to be secured by entering high quality, high value-added product markets and this requires far-reaching changes in industrial and work organisation, including the creation of a supply of workers with flexible, general and transferable skills (Green and Ashton, 1992).

However, it has been noted that there is tendency for many business strategies to be based on demand for low skills (Mason *et al.* 1996). At the same time, research has also noted a trend towards the polarisation of skills with groups congregating into high skills and low skills clusters. The former are likely to continue to enhance their skills either through experiential or formal mechanisms, financed either individually or by their employers. The latter by contrast are in danger of remaining low skilled – as a result of the continuing demand for low skilled workers by employers and the perceived lack of training need; limited personal financial resources; and the limited demand for high skills. These minimise the incentives for personal investment. National education and training policy has largely been designed to focus on those with low skills. To a large extent, these skill patterns reflect underlying business models.

2.1 The meaning and importance of business models

A business model is a hypothesis or proposition about how to generate value in a defined marketplace. Magretta (2002) highlights the 'narrative' element of business models: 'The business model tells a logical story explaining who your customers are, what they value, and how you'll make money providing them that value.' In this sense, a business model can be viewed as a hypothesis to be tested in the marketplace. Hawkins (2004) makes the point that a business model may become a product in and of itself. Certainly, in the dot com era, the business model was the selling point for most startups and it is very much the 'brand' for such successful e-commerce firms as Amazon, eBay and Priceline.

A parsimonious definition of business model is offered by Rappa (2002): it 'spells out how the company makes money.' Betz (2002) similarly states that it is 'an abstraction of a business identifying how [it] profitably makes money'. A business model is a 'blend of three streams that are critical to the business …. the value stream for the business partners and the buyers, the revenue stream, and the logistical stream' (Mahadevan, (2000).

For Magretta, business models and strategy are conceptually very similar but not synonymous:

> A business model isn't the same thing as strategy, even though many people use the term interchangeably today. Business models describe, as a system, how the pieces of a business fit together. But they don't factor in one critical dimension of performance: competition. Sooner or later – and

> it is usually sooner – every enterprise runs into competitors. Dealing with that reality is strategy's job…. A competitive strategy explains how you will do better than your rivals (2002:94).

Applegate (2000:53) defined a business model as 'A description of a complex business that enables study of its structure, the relationships among structural elements, and how it will respond in the real world'. She then goes on to say that one of the properties of models is that they 'can be built before the real system to help predict how the system might respond if we change the structure, relationships, and assumptions' (2000:53). Applegate (2000) suggests business models have three components:

- the *concept*, which 'describes the opportunity and strategy';
- *capabilities*, which 'define resources necessary to execute strategy';
- The *value proposition*, which explains 'the benefits to investors and other stakeholders'.

Linder and Cantrell (2000) make distinction between *components* of business models, real operating business models, and change models. They define operating business models as *'the organization's core logic for creating value. The business model of a profit-oriented enterprise explains how it makes money'*.

From reviewing various empirical works, Seddon *et al.* (2004) argue that, a business model can be conceived as an abstraction of a firm's strategy. The *logic* of value-generation is the core of a business model; the details of how to realise that value are in the domain of strategy. Overlooking strategy by many of the dot-coms during the laboratory and early startup stages cost the survival of many e-businesses. An in-depth series of research studies of e-commerce retailing innovations in eight countries ranging from Australia to Hong Kong to Greece to Denmark to the United States, concludes that a clearly stated and understood business model is a prerequisite for success, but ultimate success or failure rests on the capability of the firm to customise both the model and the follow-on strategy to the dynamics of the market (Elliot, 2002).

It is useful to consider how these ideas about business models have consequences in the context of the idea of an emerging knowledge economy.

2.2 The idea of the knowledge-based economy

The idea of a knowledge economy embraces a number of quite different visions of economy and society.

- One view, most evident in OECD publications, sees it as very much bound up with the high skills/high performance/high value added scenario as the only way for firms to compete in a globalised economy.
- Another view, found principally in the scientific and technical community, tends to view it more narrowly as applying to knowledge intensive industries where knowledge itself is the core competence. The latter is typically found in software and internet companies, computer hardware and computer chip manufacturers, computer and electronic equipment sectors, and health care technology.
- A third view, adopted by Cairney (2000), is that all sectors of industry are becoming more knowledge intensive in the very broad sense of that term. Knowledge is seen as a potential generator of productivity improvements in areas as diverse as quality, customer service, variety, speed and technical improvement, as well as innovation in products, processes and organisational structure and behaviour. As companies alter the way their organisations are structured (flatter, non-hierarchical, team based, multi-skilled) in order to compete more effectively, so too workers have needed to obtain a more complex range of cognitive resources.

In this dynamically changing environment, it is argued, 'knowledge workers' 'will emerge as the dominant occupational grouping with high levels of education, continuing professional education and discretion' (Lindley, 2002:95). The knowledge-based economy is also referred to as the 'knowledge society'. The vision is that the production, dissemination and use of knowledge will take on a prominent role as a source of wealth creation and exploitation. There is a perceived scope for codifying knowledge, abstracting it from its context, and this makes it potentially more accessible and marketable (Lindley, 2002:98). At the same time, individuals and organisations are able to adopt ways of working that encourage the identification and sharing of key elements of

knowledge which have hitherto been only tacit amongst their employees, sub contractors, etc. are likely to be more effective. Thus, a radical diversification in the location of knowledge production within the sectoral and organisational structures of the economy is envisaged (Boisot, 1999). Many more organisations will be engaged in producing and disseminating as well as using knowledge.

While this kind of analysis sets the agenda in policy circles, there is less certainty at the level of *business practice*. At firm level there is rather more evidence of multiple strategies – many of which do not depend upon upskilling. A sceptical assessment suggests that the main growth areas of employment have not been knowledge work, but rather low skill jobs that draw on broader social competences and the aesthetic qualities of workers. But a contrary assessment continues to maintain that the fastest growth is occurring in managerial, professional and technical occupations and among 'service workers' – a hybrid category comprising medium-to-low skill level, depending on the service of activity in which they are engaged. In a dynamic knowledge-based economy the job-specific skills that workers need cannot be readily predicted, and are subject to on-going change. Because of this, the capacity to continually adapt and upgrade through key or generic skills, that can be applied in different settings, is becoming of vital importance (Curtis and McKenzie, 2002).

Most OECD countries are placing an increasing emphasis on the development of 'human capital' – the knowledge, skills and motivations embodied in people. On-going structural changes affecting all OECD economies and societies have increased the importance of up-to-date skills and competencies. The growing share of economic output in services is knowledge- and information- intensive, as is an increasing proportion of manufacturing and primary production.

This places a premium on the continual upgrading of the skills and competencies of the workforce that is, developing coherent strategies for lifelong learning (OECD, 1996). 'Lifelong learning' became one of the most frequently used terms in education and training circles. Policy documents at national, state and institutional levels are increasingly being framed from a lifelong learning perspective. At international level lifelong learning has been adopted as the key organising concept in the education and

training programmes of the European Union (1995), the OECD (OECD, 1996) and UNESCO (Delors, 1996).

The concepts of key, generic employability skills and competencies derive from a view that the job-specific skills that individuals need cannot readily be predicted, and are subject to on-going change. What is important, therefore, is the capacity to continually adapt and upgrade via core or generic skills that can be transferred readily across different settings.

2.3 The changing nature of employment and the required skills

Lindley (2002) examined the US patterns of employment in qualitative and quantitative terms from the perspectives of ideas of the knowledge-based economy. He found, based on employment and total job openings 1996-2006 projection, that:

- In broad terms the fastest growth is expected to arise in managerial, professional and technical occupations, all of which are associated with high level of education and training, and among the so-called 'service workers', a rather hybrid category comprising medium-to-low levels of skills, depending on the service of activity in which they are engaged.
- Most strikingly, over half of the top twenty growing occupations are associated with the health sector and over half require education and training which is significantly below a bachelor's degree.
- A third of employment growth is in occupations that require a bachelor's degree or higher and a third requires only short-term on-the-job training. (Lindley, 2002:104)

Similarly in the UK, both computing (IT) and management consulting have developed, especially during the 1990s at a pace that far outstripped general increases in employment and high level differentiation define both groupings (Fincham, 2006). Despite this, however, Thompson *et al.* (2001) argue that the key growth areas of employment have not been and will not be knowledge work, but rather low skill jobs that draw on broader social competences and the aesthetic qualities of workers.

There is controversy concerning how best they might be acquired and over what value the labour market actually places upon them in practice (Green, 1999). For

example, the qualifiers 'core' and 'key' both seem to convey the sense that the entities being discussed are requirements for all people, irrespective of the level and nature of the work or other activities that they might undertake, and that there are minimal standards that all must achieve. The terms generic and transferable carry the implication that the entities under discussion are applicable across all areas of human activity and that they can be learned in one context and be applied in others.

The notion of independent, competitive strategies – although still prominent in business and government rhetoric – is being diluted by the need to collaborate in order to survive and prosper through the creation of significant new customer value propositions, enabled by the new technologies (Leibold *et al.* 2005:16).

Famously, two core generic business strategies have been identified by Porter (1980, 1990), those of cost leadership and differentiation. These strategies have important implications for skill demand. For example, if the business strategy is dependent on producing a product which involves complex manufacturing processes, and is not standardised but unique in some aspects, there will be a greater need for skilled employees that can work efficiently and productively to ensure sufficient organisational profits to make the strategy viable in financial terms. In contrast, if the product is highly standardised and does not involve complex production processes lower skill levels will be needed to attain an efficient and profitable outcome. In the UK, empirical work has suggested that some firms are characterised by a demand for low-specification, low-value added products, and hence only require low skills to produce. Because of this, large proportions of British enterprises have adopted low specification product strategies and compete on price rather than an innovation based strategy (Mason, 2004, 2005). The implication of this is that if and when firms wish to move up market they need different skills and so are likely to then experience skill shortages.

Findings from case studies undertaken by Zack (1999:131-32) revealed a variety of skill requirements depending upon the chosen business proposition. For example, Lincoln Re competed directly via the high quality of its knowledge about particular classes of medical risk, and its knowledge about how to combine ancillary services into an integrated packaged solution for its clients' risk management problems. LeaseCo, specialising in novel, customised leases, had to compete on its knowledge of the

economics of pricing a complex lease. Toys 'R' Us focus their retailing knowledge on one product category at the expense of others. But broad-line retailers, led by Wal-Mart, have taken a different competitive knowledge position. These retailers tap the knowledge of their suppliers to understand their customers consumption habits, practices, needs, and buying patterns of tens of thousands of products The retailer is, in fact, operating as a knowledge integrator, integrating the knowledge of many suppliers to better serve consumers.

In each case, an organisation's competitive positioning (business model) created skills and knowledge requirement, while its existing knowledge created an opportunity and a constraint on selecting viable competitive positions. Success required dynamically aligning those knowledge-based requirements and capabilities.

Companies could pursue variegated strategies in this dynamic and turbulent competitive environment and the types of strategies pursued also have implications on the required skills and knowledge. In today's 'knowledge-intensive environment' (Zack, 1999), it is argued that firms should be able to map their knowledge resources and capabilities against their strategic opportunities and threats to better understand their points of advantage and weakness. To explicate the link between strategy and the required skills and knowledge, an organisation must articulate its 'strategic intent' (Hamel and Prahalad, 1989), its business models and identify the knowledge required to execute its intended strategy, and compare that to its actual knowledge, revealing its strategic 'knowledge gaps'.

The required skills and knowledge vary across the type of innovation concerned, the industry and the strategies firms pursue. Most of the literature examined shows that technological innovation in advanced western economies has been skill-biased. That is it has increased the demand for higher skills and reduced the demand for lower skills. This skill-biased technical change has particularly characterised the US in recent years, and to a lesser extent the UK (Tether, 2005). In the case of process innovation or when firms pursue operational efficiency strategy, the literature predicts, in most cases, that innovation reduces jobs, because it tends to be of the kind where capital (new machinery/equipment) replaces labour, particularly unskilled labour. The theoretical and empirical literature suggests that product innovation, on the other hand, is positive to

employment levels, as it will often result in an increase in demand for those products. A recent study of French manufacturing firms, however, found that both product and process organisational innovation are negatively related to employment, except when they are both introduced in combination and aimed at increasing market size, in which case they are positively related to employment (Greenan and Gullec, 2000).

The dynamic relationship between skills and firms' innovative activities and the types of skills required could be changing depending on the product life cycle (Utterback, 1996) and the industry in which the firms operate (Pavitt, 1984, 1990). Following the product life cycle theory, the manufacturing firms' innovative activities, and the required skills and knowledge would progress through different forms and stages over the cycle. In the early, fluid stages of an industry when the product is ill-defined, the key skills are those of entrepreneurs and sometimes those of scientific or technical specialists. As time goes on, the product tends to become more standardised, until a dominant design emerges. In this transitional stage, there is a shift from product to process innovation. Functional, scientific management skills and specialist workforce skills are increasingly required. Once the dominant design is established, the industry enters the specific stage, where innovation is more incremental and cumulative. The skills required are managerial 'command and control skills' and low level or unspecific workforce skills. Higher-level workforce skills may be increasingly required if the firm attempts to move into the higher quality end of the market in response to low-cost competition. There is limited evidence that some service sectors move in the opposite direction, from large-scale provision of standard services and process innovation to smaller-scale provision of customer-specific services, implying product innovation.

Another aspect that affects the relationship between innovation and skills is the industry in which the firms operate. For example, Pavitt (1984) argued there are four different types of (mainly manufacturing) industry that have their own patterns of innovation and requirements for skillsets – science-based industries such as pharmaceuticals and electronics which require a core of degree-level science and engineering skills, and work a lot with universities and/or have their own R&D laboratories; scale-intensive industries rely on economies of scale, exploited by scientific managers; specialist suppliers, which engage in a lot of cooperation with lead users, tend

to require the skills of interactive learning, the expertise to develop highly client-specific solutions and vocational, practical development skills.

The empirical evidence suggests that service-sector firms are more organisationally innovative than manufacturing firms. These organisationally-orientated service-sector firms are more likely to emphasise the importance of supply chain interaction and external intellectual property but less likely to emphasise in-house R&D and research-based cooperation with other organisations such as universities as their key sources of technology. Meanwhile, in the innovation studies literature, Kodama (2003) suggests that with technological fusion and increasing cooperation, innovations are increasingly crossing industry and technological boundaries, which will tend to make the new innovations more widely applicable. This in turn is changing the demand for skills by requiring that workers have broader, less specialised skills, involving multiple disciplines.

2.4 Skills required for quality customer service

Adding value through services often involves developing empathetic relationships between the service provider and the customer, and this has led to the recognition and growing importance of 'emotional labour' as a core component of some forms of service work, such as airline stewards (Williams, 2003), tour reps and nurses (e.g. McQueen, 2004). James (1992) for example, states: 'The formula 'care = organisation + physical labour + emotional labour' identifies component parts of 'carework' as observed at a hospice. New forms of service – such as image consultants (Wellington and Bryson, 2001) – have developed around 'emotional labour', and call centre staff are expected to act down the phone (Palmer and Carstairs, 2003). Similarly, 'emotional labour' is increasingly recognised as necessary amongst professionals. It is not sufficient that barristers who contest jury trials be experts in the law – they also need to be able to emote to make an emotional connection with the jury (Harris, 2002).

In frontline service work, such as in banks, call centres and amongst airline stewards, 'emotional labour' extends beyond 'good manners', to include a complex of skills including communication skills, the ability to empathise and understand problems from another's (usually the customer's) perspective, the ability to calm irate customers, the ability to solve problems, the ability to work in teams with flexible job specifications,

and the ability to reflect on performance (Gorman, 2000). The point is that workers are often expected to conceal or manage their own feelings for the benefit of a successful service delivery (Constanti and Gibbs, 2005).

Skills supply side problems also reported to have been negatively affecting the innovativeness of firms in the UK (The UK Innovation Survey, 1998-2000; European Innobarometer Survey, 2001). In the UK Innovation Survey (relating to 1998-2000), the lack of qualified personnel was not a premier barrier to innovation, coming fifth out of nine barriers. However, in the European Innobarometer Survey (2001), finding and mobilising human resources was the most cited barrier to innovation in the UK. More recent data, from the National Employers Skills Survey 2003, found that over a fifth of the firms that reported skills gaps amongst their existing workforces had delayed implementing new products due to these deficiencies, whilst nearly a third had experienced difficulties introducing new working practices. However, as Haskel and Martin (2001) note, the interpretation of skill shortages is a controversial topic, not least because the terms may not be used consistently and the information tends to be collected from employers. In 1992, Green and Ashton cautioned against an uncritical reliance on views from only one of the parties, the employers and their representatives involved in the economic process. Yet the evidence is that this continues to be the case (Skinner *et al.*, 2004).

During the 1980s in the UK, jobs that used to be performed by the unskilled became increasingly automated and tasks that were routine became complicated by the adoption of robotics and therefore started to require a higher percentage of higher skilled staff. Recruiting and training practices changed accordingly. From the quick, task-specific and on-the-job methods of the Fordist period, a shift took place towards formal education and lengthy 'before-the-job' search and selection processes aimed at testing thinking (cognitive) and diagnostic skills of prospective employees (Gilles, 1978, and Rutherford, 1994; cited in Duranton, 2003). Furthermore, an increasing number of white collar workers were employed in managerial positions and highly qualified workers were increasingly employed in applied research and product development activities for the production of increasingly technologically complex products. Also, a shift has been observed from the production of goods to the provision of complementary services

(Howells, 2003). For car producers, this has implied diversification of their business portfolios to include financial and leasing services, activities that – until now – have employed mainly skilled graduates.

To take a general perspective, the mechanisation of manufacturing activities in the automobile industry has reduced the demand for unskilled workers (McLoughlin and Clark, 1994; Duranton, 2003). At the same time, innovation has led to the rising employment of higher-skilled workers that are able to use, maintain and improve the new technologies and organisational models the innovation involves. This equates to a rising demand for high-level skills. The effects of technical change are in fact deeply connected to those derived from increasing global competition, which has dramatically augmented pressures on costs and performance for incumbents in mature markets and relatively high cost places of production, such as the UK. More specifically, newly industrialising countries – and China in particular – are absorbing increasing shares of the global market for the production of finite goods as well as the low-cost production of standard components that are later used in assembly elsewhere. This has further accelerated the shift in the composition of labour and strengthened the incentives for western manufacturers to pursue high value-added strategies. These typically involve strong emphases on research, design-intensive product development, high-technology content of modular components, and heavily skill-intensive innovation strategies.

The results of the Cambridge Centre for Business Research survey of small and medium sized enterprises in the UK also point to managerial skills being a problem, and this survey suggests it is a problem of a similar magnitude to the skills of the workforce for innovating firms. Meanwhile, skill shortages in marketing and sales exist at a slightly higher level, which may also point to a difficulty in stimulating demand for innovative outputs in the UK (Tether *et al.* 2005). Tether and his colleagues (2005) argue that the UK system of employer dominated on-the-job training has important limitations in terms of imparting a fuller, theoretically grounded understanding of work tasks, which tends to limits the adaptability of British workers, and which then restricts the ability of British firms to move to the production of higher value added goods and services. It is important not to over-generalise, as Wilson and Hogarth (2003, p. vii) observe: 'The UK may well lie closer to the low skills equilibrium end of the spectrum than the high skills end, but

many organisations are following [more innovative] product and skill strategies that cannot be so readily characterised as low skill trajectories.'

It has been argued that historically UK employers tend to concentrate on standardised and less complicated products and on product development processes which require low skill levels. The limited demand for high skills in part explains the perpetuation of low skills in the UK labour market (Finegold and Soskice, 1988; Finegold, 1991).This said, there seems to be considerable evidence that many British firms are *'locked into' low-value-added product or service strategies,* which involve, at most, only highly incremental forms of innovation. It is important to stress that many of these firms are not necessarily 'trapped', as that would imply a desire to escape from this situation. Instead, many are quite satisfied to occupy these parts of the market, which reflect a comfortable combination of (low) workforce skills, (low) managerial capabilities, (low, or non-exacting) demands from their customers, and little innovation beyond highly incremental improvements to existing products and processes. Some firms are seeking to innovate more fundamentally and move up-market, but face difficulties in so doing, in one or more of the triumvirate of workforce skills, managerial skills and customer demands.

The implications of this for national competitiveness depend to a significant extent on future patterns of trade. In those product and service markets that are increasingly open to international trade (which arguably is a growing share of the economy), UK based firms will find it increasingly difficult to compete with low cost producers in China, India and elsewhere. To survive British firms will need to escape these market segments by moving up to higher value added activities, which will involve higher skills and greater innovation. The expansion of higher education addresses this to some extent, but if not more important is the need to develop highly adaptable skills across the work force, adaptable skills that are built on the foundations provided by a good universal education system (Tether *et al.* 2005:70).

In general, however, management and leadership skills are found to be of particular importance for all types of innovation in organisations (Tether *et al.* 2005). Intermediate level technical skills are also thought to be very important for innovation, especially in manufacturing firms. This is significant because the UK is said to have a

smaller proportion of people with these skills than countries like Germany and Japan (Tether *et al*. 2005). Further, there is a concern that the quality of these skills is relatively low in the UK because of an over-reliance on narrow job related skills rather than underpinning knowledge (transferable skills). The German 'dual' apprenticeship system impart apprentices with both theoretical (conceptual) knowledge as well as vocational skills. This is thought to have enhanced the capacity of German workers to adapt to, and enhance the new technologies they encounter over their working lives. Evidence about the effect of these skill differences comes from the NIESR matched-plant studies (Prais, 1995), which show that British managers tend to defer the implementation of new equipment until it is 'bug-free', in part because of acknowledged skills weaknesses on the shop floor. These delays imply British manufacturing firms cannot build up the valuable relationships with leading-edge suppliers, unlike German firms. They therefore end up competing on price, and not on quality, and are considerably less productive.

The dimensions of human capital encompass not only the level of education but also the work experience of the labour force and managerial expertise and so increasingly, learning, training and knowledge have emerged as essential national competitiveness levers (Olian *et al.*,1998) or indeed 'the new organizational wealth' (Sveiby, 1997; Heraty and Morley, 2003).

From the policy perspectives, the UK government is concerned with increasing productivity and has identified five key drivers of productivity: innovation, skills, investment, enterprise and competition. Supply of and demand for the required skills, as well as the polarisation of the labour market into high- and low-skills are also intertwined issues which need to be thoroughly considered in the process of strengthening educational and training institutions, as well as having a flexible and well functioning labour market. Beaven *et al.* (2005), in their report for the Sector Skills Development Agency, envisaged various futures in which a higher rate of investment in skills would raise productivity and improve the UK's aggregate economic performance. These authors also had a view that, although the supply side improvements in the provision of education and training are no doubt a pre-requisite, the more important factor is *stimulating the demand among employers* for more highly skilled workers, with concomitant changes in training and product strategy that this implies. If we take the

case of the service sector, for example, strategies, which increase the knowledge-intensity of services and not just the skills of those supplying services in their existing forms, will be especially important. The potential demand for more education, training and continuing professional development may neither materialise in the first place nor be satisfied adequately without major reform (Lindley, 2002:106). What should be the balance between state and private funding? What options are most promising for the role of government in modernising and regulating markets for such services so as to increase demand, quality of service and the quality of jobs? Health and personal care are also key areas where the rising demand through population ageing sets the scene for opportunities to implement more knowledge-intensive, job-creating, yet inclusive approaches to personal services.

Exhortations within the management literature urge organisations towards the creation of a learning environment as the key to competitive success (Senge, 1990; Altman and Iles, 1998), while the available evidence suggests that training improves the commitment of workers, fosters a common culture within firms and helps to attract high quality workers (Coffield, 2002). However, The British VET system is market led in that participation by employers is voluntary and the education and training system for labour market skill development is based on the principle of matching supply and demand (Tregaskis and Brewster, 1998; Winterton, 2000). Heyes and Stuart (1994) argue that such market-based systems of training provision are most likely to result in an under-provision of skills and note that it is possible that employers may see their interests as best served by the continued existence of an exploitable, low skill, low wage workforce. Critics have also argued that a market-based approach to skill formation will fail to deliver a high skills nation (Booth and Snower, 1996). For example, poaching, business strategies requiring low skills and inequalities in access to education and training all have negative consequences for skill formation in the national labour market. The state's role has been seen as one of facilitator, building a qualification infrastructure and putting in place the means and mechanisms for both employers and individuals to engage in training and learning.

From the literature, it appears that a number of assumptions that currently underpin claims about skills shortage may be seriously flawed, not least whether the UK

employers genuinely desire a highly skilled workforce (Skinner *et al.*, 2004:191). Keep (2002) argued that most employers have traditionally lived hand to mouth in relation to skills development and have failed in systematic planning or forecasting. Consequently, they have often found it hard to articulate what they want from the VET system in any form that can be operationalised. On the other hand, Becker's theory of human capital suggests that there may be several reasons; including lack of information on the returns to education and training, lack of access to finance to fund it and, for firms, fear of not reaping the return on their investment in training, because their trained workers may leave for another company. The latter problem, fear of so-called poaching, may be especially relevant to highly-innovative, high-technology industries. In this case, the training may be extremely expensive, risky, yet very valuable to the firm that reaps the return on the investment, especially if a new market is being opened up. At organisational level, employers (firms) need also to perform a strategic evaluation of their knowledge-based resources and capabilities and, identify and develop the required knowledge and skills to deliver their strategy. Encouraging more collaborative, trust-based arrangements between firms is necessary whereby firms may gain long-term advantages from interactive learning, even if there are additional short-run costs.

The available research on the extent to which UK firms have responded to the new competitive pressures suggests that many firms have not responded to these pressures in the expected manner. It also suggests a number of reasons for this. And these findings raise a key question, which the next section explores. It clearly cannot be assumed that market forces will drive firms to recognise the advantages of moving up the value chain and require them to make the necessary changes to strategy and organisational capability. Somewhere something goes wrong. This therefore raises the question: what are these problems and obstacles, and how do they impact on senior managers' strategic and organisational thinking and choices.

These are the questions addressed by the next section of this Report – what organisational factors generate obstacles and resistance to firms' ability to recognise the fundamental changes to the nature of global competitive dynamics and to make appropriate changes to strategy and structures? And specifically what is the role of senior managers' knowledge in obstructing/facilitating their ability to respond appropriately to

the emerging knowledge economy? Bearing these points in mind, we now want to explore how business models emerge and become actionable in practice or become embroiled in indecision and contestation.

3 Case studies

In this section, we present two cases studies, which describe how organisations responded differently to the kind of pressures described above. This section therefore consists not of possibilities but of empirical analysis of contrasting attempts to respond to new competitive conditions. So, a significant contribution of this part of the report is that it offers an alternative to the pervasive world of exhortation, advocacy and prescription and shows some of the ways in which firms are seeking (with varying degrees of success) to develop new organisational strategies and to develop appropriate and supportive organisational structures and capacities.

Such a move (from exhortation and assertion to analysis) is necessary if we are to understand the factors, which support or hinder firms' ability to make the necessary strategic and organisational modifications. It is also necessary if we are to develop a more empirical and nuanced understanding of these changes themselves.

Developing responses to the challenges posed by the emergence of the knowledge economy clearly varies with the nature of the industry or sector. In some sectors, the dynamics of competition have for many years required that firms pursue value-adding strategies – most notably professional services organisations or sectors where innovation and quality are at a premium; while other sectors have traditionally been dominated by price-based competition. In this section, we explore examples from both these types of sector. The first case unpacks and develops the nature and role of knowledge in a knowledge-based sector: more importantly, it offers insights into the structures and processes which organisations need to develop and deploy if they are to establish organisations which attract, retain, develop and deploy knowledge and talent.

The second case addresses a very different situation. This case is of a cluster of firms which are the leading active players in their trade association. In the sector in which these firms operate and compete, the dynamics of competition are firmly and unequivocally based on price – or so most managers think. But there are some managers

in this sector who not only recognise the benefits of moving up the value chain, of moving away from price-based competition towards different sorts of benefits for clients (and for suppliers) but who believe it could be possible. The case describes the aspirations of some managers within this price-dominated industry where, as one manager put it, there is currently a 'race to the bottom', to move to a new set of propositions to clients and a new, quality-based and even innovation-based business model. In essence this aspiration involved a move from supplying a set of unskilled operations for clients (office cleaning) to (a) an increasing range of associated services (for example, concierge, maintenance, office administrative services, and others) and to (b) responsibility not only for carrying out operations but also for planning and co-ordinating these operations.

The cleaning and support services businesses case is revealing not only for insights into how even within a low-skill, non-knowledge-based sector, where competition is dominated by price and a price war exists, where barriers to entry are few and low, certainly for small to medium-sized clients, even in this sector, managers are aware of the advantages of moving up the value chain and offering best quality and a wider range of services (with all the associated implications for staff skills, employment conditions etc.) and prepared to try to establish the organisational bases for such ambitions. But the case also reveals more than this – a point that has been made before, that obstructions to these aspirations arise not from the clients but from the commitment of managers in the sector to historic routines and assumptions. Not for the first time it seems that radical organisational change even when recognised and desired has to start not with clients, not even with organisations, but with the knowledge and assumptions of key managers.

3.1 The engineering consultancy company

Eng-Con was founded in 1984 and now numbers over 300 staff. It provides all the engineering services required for the design of buildings and bridges. Structural, civil and building services engineering teams are supplemented by specialists in civil engineering, building physics and infrastructure. It now has engineers in six UK regional offices and a new Dubai office with 15 staff. The firm is committed to becoming a multi-disciplinary practice. As its structural engineering roots have grown, it has also branched out into

infrastructure, geotechnics, bridges, and a multitude of other areas of engineering. Following the downturn in commercial building, it has established strong credentials in new areas like schools and healthcare. Eng-Con directors expect 30% UK and 100% overseas growth per annum up to 2010. Design software and computing power play an important and central role.

Eng-Con designed an IT system geared to job administration, which has helped free up team leaders' time that was formerly dedicated to paperwork and cost-tracking. The firm's business plan involves recruiting 200 new staff. Eng-Con has a staff turnover of only 6%, which is half the industry average.

3.1.1 Knowledge, business strategy and structures

Eng-Con is interesting and revealing for the purposes of this analysis for a number of reasons. Eng-Con needs to take no lessons from politicians about the importance of knowledge in their propositions to clients and as the basis of their strategy and their success. This is a point they have taken wholly to heart. Knowledge (and other associated qualities – see below) was seen as fundamental to the strategy, structures and processes of Eng-Con. However although Eng-Con senior managers recognised the crucial role of knowledge they did not see knowledge alone as sufficient. Knowledge had to be combined with other crucial qualities that were frequently noted and enormously valued: talent, innovation, enterprise and responsiveness. Knowledge was necessary but certainly not sufficient: the key issue was how knowledge was used and applied. Knowledge, and the associated qualities which determined how actively, intelligently creatively and responsively it as applied, was the mainstay of Eng-Con's business proposition, the heart of its strategy, the secret of its success. These qualities were defined at strategic, organisational and individual levels. Designing an organisation that was capable of attracting, retaining, motivating and using expertise and 'talent' – the most important and elusive of all the core attributes – was crucial. The role of organisation (structures, systems, processes and crucially culture) was (a) not to damage or demoralise and (b) to allow full expression and deployment of talent and knowledge.

The concepts of knowledge, talent, innovation and enterprise were regarded by senior management as central to Eng-Con's culture, strategy and business approach. They had constructed a model of business (for it was the key determinant of organisational

structures and systems) and its business model (for it was seen as critical to the dramatic success and growth of the company) around these ideas.

A managing director explained the reason for the firm's success in the following terms:

> Our ability and desire is to look at every engineering problem with a fresh outlook, to see if there is any better way of providing a solution. Our youth – I think we are a young firm (our average age is quite young) – so there's a freshness about us. But I think the biggest thing that categorises us to the outside world is our enthusiasm for what we do, and I think we are fresher, more enthusiastic, than other firms. The people who join us…are surprised by the energy levels that come across.

The firms' success lay in its organisation (especially its culture and systems which encouraged enterprise and talent) and in its people – and in the way the former supported the latter. Its model of business was seen as fundamental to the success of the business. The chief executive officer and other directors drew a clear and strong connection between the features of the organisation, which attracted and encouraged enterprise, innovation and talent, and the organisation's success.

Eng-Con is interesting because of the ways in which these qualities were defined as individual qualities but were explicitly developed deployed and rewarded by organisational arrangements. The ultimate source of these qualities is at the individual level – the people who are recruited and the way they are then 'managed'. When asked what made Eng-Con distinctive, the managing director answered: 'We have a great passion for finding, and holding on to and promoting and nurturing talent…. We set out to get them. We designed this business around the emerging generation of young people…We realised that talented people could grow very quickly when placed in the right environment.' Recruitment is key but so is retention and both are the result of deliberate policies and practices, the latter requiring explicit and deliberate choices of organisational structures and business strategies. Senior managers including the founder managing director see themselves as enterprising and they try deliberately to recruit others who share this quality: 'we recruit people around us or we promote people who are like-minded, and they in turn surround themselves with like-minded people'.

Expert, talented and enterprising individuals had to be found and nurtured. Despite the recent rapid growth of the company, senior management was clear that if

enterprise was to be preserved and cherished the organisation must retain its small size features even though it was becoming larger. So keeping the features of smallness was an explicit strategy for organisational design. The managing director remarked that Eng-Con: '…. retains small firm adaptability, creativity, buzz, on a big scale.'

Another director commented: 'we are still a relatively small business and we were probably one of the first consultants to really work closely with contractors – looking at how we were going to build it and how we're going to procure it and putting a whole package together. So we were very much 'hands on', giving the overall picture of how something was done. So it's not the traditional consultants of 'that's our design and that's what you're going to go and do'. So we challenged, we did a lot of work leading to the challenge to procurement routes and how we're going to build it and getting rid of standard methods. It's the culture and the 'hands on' approach to doing standard things.' This 'hands on' approach was expected of everyone regardless of seniority.

At the organisational level a small number of key principles, which all focused on the importance of encouraging and developing (and critically not suppressing) talent, innovation and enterprise determined organisational design even when the organisation was growing. One principle was the 'rule of 25' – that no one would work in a group of more than 25 people, or manage a group bigger than this. Twenty-five was seen as the number, which would permit informal working relationships, informal contact, access, communication and familiarity, reducing the need for formal systems. The managing director commented: 'The idea is that you maintain the structure of the firm, which is sort of 25ish teams of people, led by director – the context of unit management… there are things we have discovered work, and also when they've been changed, we've discovered how they don't work. So what we want is quite a flat structure, where you don't have too many people gathering those groups of 25 together, and then holding them as their own… The danger is that those people compete. There's this fiefdom develops.' The small teams were seen as responsible – with the other organisational principles – for creating some strategically critical features of Eng-Con, giving the firm – '… the sort of small, light on our feet approach'.

Another principle was that the organisation should permit the necessary and timely development and promotion of the talented enterprising and ambitious people who

had been recruited and whose retention was critical to the business model and client value and satisfaction. This had implications for business strategy – it placed an emphasis on growth in order to create roles and spaces for talented people; and for structures – which must permit the development and encouragement of talent. The managing director commented: 'We're aware that everybody in the business has a career ahead of them and it's only going to help if we grow the business to meet their demands, their desires. And we have lost people in terms that we're not growing fast enough; we're not able to evolve a position for them, which means that they're going to play a major role in the business… We're taking on 20 brilliant graduates this year, and they are really top class; we've got to at least tell them to stick with us, and in five years' time we have moved a lot of other people on, in order for them to have a role. It's very hard *not* to grow in the circumstances.'

Eng-Con senior managers were also strongly hostile to excessive systems and administrative procedures, which they regarded as antithetical to the development and deployment of talent. Knowledge management for example was achieved largely through informal systems – the involvement of the directors in the teams, and the critiques that occurred whereby projects were publicly presented and analysed. 'So our culture is made up of that sort of philosophy (which) hates red tape, dislikes bureaucracy because it feels constrained by it, so to a large extent, the reason we don't trap data, is we don't like … the rigorous administrative procedure that comes with trapping and using data…. We're engineers; we enjoy engineering; we're good at engineering. We're not and we don't want to be data collectors and administrators.'

This antipathy to formal systems was supported by a conviction that organisational systems and cultures should not suppress or limit individual enterprise and initiative: '… the organisation is structured so that it has no problems with people exploring these opportunities. There are no real constraints on people who want to explore a new sector or opportunity'. However this emphasis on individuals (and the organisation as a whole) 'being reactive, customer-focused, adaptive, flexible as opposed to systematised', was supported by a clearly recognised need for 'visibility'. Visibility entailed the directors' ability to check right down to the detail of a project – 'checking to the core'. The checks were carried out by directors.

'Visibility' was central to the firm's capacity to encourage initiatives from the talented and staff (which in turn was central to the firm's success with clients) without suppressing it by smothering talent and expertise with formal systems. The regular 'critiques', the involvement of the directors, the role of the managing director in quality checks, all supported this. So too did the process known as the 'Job Management System' (JMS). The role of this system was to ensure that that the costs associated with a project were kept in line with the fee chargeable. It was designed to ensure that engineering innovations did not run out of control. The JMS 'focuses on the fee so that everybody is aware of the spend so there's a culture in the business of getting a fee, setting your workload to it, you can adjust the workload you need to do it by affecting your profit factor but by having that (JMS) system you can look at the overall workload of the company. It means everybody in the company is open to knowing what fees are there. So there's a culture certainly through the business from very early days of knowing what you're doing.' Hence, informality was underpinned by a systematic process built on fee income.

Quality was also managed through a variety of mechanisms. The directors could overlook any project; a pairing system existed whereby the teams of 25 staff were run by two associate directors ('so there is support and challenge'); the 'external review' system consisted of directors reviewing work from other teams; and each director set a review regime for his/her project. On complex projects, these reviews could apply at a number of project stages.

3.1.2 Lessons from Eng-Con

The role of management, in deploying and defining the qualities *they* deem as critical to the successful achievement – through appropriate organisational structures, cultures and systems encouraging motivating and developing the capacities of knowledgeable and talented staff – of necessary business strategies for operating successfully in a globalised knowledge economy has been insufficiently studied. Over-determined analyses of organisations under-estimate the key role of senior managers and under-estimate the nature and significance of their theories of organisation and strategy, which play an important role in decisions on strategy and structure.

The case of Eng-Con contributes usefully to our knowledge of the ways in which managers, competing in a knowledge-based sector where expertise, talent and knowledge (and the ways these are used and applied) are defined as critical to firms' competitive advantage and performance. It reveals how the senior managers developed the business model around knowledge and talent, and then explicitly and thoughtfully develop organisational structures and processes specifically designed to ensure the appropriate context for developing and deploying talented staff.

The case reveals to us how managers theorise strategy and organisation and the links between the two within the environmental context so often emphasised by Cassandra-like politicians and consultants. The case shows us how, at least in this case, knowledge, expertise and enterprise are defined and used by managers as a major element of their business model and their model of business. Both revolve around knowledge and its innovative and enterprising application, the model of business being explicitly and comprehensively designed.

The case of Eng-Con suggests some ways in which high level discourses of knowledge and talent management are incorporated into senior management thinking – theorising – about strategies and structures. The case reveals the critical and determinant role of management and management knowledge decision-making about organisational structures and systems that attract and ensure the appropriate deployment and development of employee and organisational knowledge and expertise. The directors of Eng-Con maintained that there are clear linkages between the organisation, business strategy and the required qualities and attributes of individual employees. Strategic success arises from the attributes and talents of employees. Employees are therefore recruited specifically in terms of these criteria. However, for these talents and qualities to be successfully deployed, certain clearly designed and discussed organisational arrangements are necessary which retain the informality and looseness of control within a large (and growing) organisation, which combine autonomy and enterprise within a system of visibility and quality control. Deploying the talents of ambitious enterprising staff however will fail unless there are arrangements in place, which allow the timely promotion and development of talented ambitious employees. The emphasis on growth as

an organisational strategy is significantly driven by the need to ensure development/promotion opportunities for talented staff.

To say this is not, however, to deny that the value placed on 'enterprise' in Eng-Con was associated with specific forms of control. The project review regimes; the 'critique' system by a group of directors; the JMS system, the twinning of associate directors for team leadership, the emphasis on professional standards and quality ('challenge' was as much applied internally as externally); the explicit role of the managing director in quality assurance and most of all the dominant and pervasive cultural emphasis on high professional standards and on challenge, open critique and on innovation – all these exerted clear and strong pressure on employees, as did the explicit emphasis on career management and progression. The able and successful progressed; the others did not.

Eng-Con is interesting in two ways. First, although explicitly anti-bureaucratic, the Eng-Con organisation was anti-bureaucratic in unusual ways. Although employing the conventional devices of decentralisation (small autonomous work teams) and flat management structures, Eng-Con also incorporated a strong focus on normative control allied with a series of explicit review/critique structures. But the main point of interest lies in the attempt by directors to create a form of ambidextrous organisation with respect to two dimensions: large/small, and professional/managerial. Eng-Con combined elements of conventional organisations (a work management system, group work, etc.) with features of small, informal organisation, and features of professional organisations (explicit professional review processes and structures).

Directors were determined to create an organisation, which encouraged and utilised knowledge and talent by achieving the benefits of small size within an organisation that was no longer small – and also tried to combine the encouragement of innovation and responsiveness with minimal systems for ensuing financial constraints and quality visibility.

One of the central values was 'how they treat people'. Deviation from the Eng-Co norms on this issue was a serious breach of the culture. The managing director commented on one regional office which was defined as 'a problem': 'There is a measure of whether they appreciate our values in that respect. And that's terribly relevant and

we're out to correct that.' Of staff in the new Dubai office, the managing director remarked: 'None of them has ever worked with us in London so some of the game is going to be to pull some of them back, to indoctrinate those people'.

While Eng-Con staff were expected to be to a considerable degree autonomous and independent – to take responsibility for the quality of their work, to be challenging, independent, resourceful, reliable, talented, competent, innovative, enterprising – they were also expected to accept and be bound by a clear and powerful shared culture ('being 'us''). So there is an extent to which this could be seen in terms of self-regulation in that it unequivocally places considerable burden on the individual to self-manage.

But this self-regulation is not disguised or implicit: it is overt, obvious, discussed. The nature and role of the culture were discussed openly. The expectations of recruits and staff were similarly overt and discussed. Also, if some aspects of the Eng-Con control system could be seen as an overt set of requirements and standards which impacted on individuals and which they were expected to internalise, accept and meet, other aspects were clearly externally derived and applied – for example, the JMS system and the review systems. The focus on and systems for, review were strongly emphasised, pervasive, and dominant, but they could not have been seen either as 'action at a distance' or as attempts to define the subjectivity of the employee.

We now turn to a very different context and a very different case. This concerns firms in an industry at the low skill end of the spectrum. We illustrate the dynamics here by a study of office cleaning and associated business services contractors.

3.2 Commercial and industrial cleaning and support services

Our point of departure for this analysis is a cluster of the large international and national firms (and their industry association) which represents the major contractors in the industrial and office cleaning and support services industry. We were approached by the leading half dozen firms who were exploring the idea of a new business model for the premium end of the industry. These members while interested enough to investigate the idea were far from sure that it is possible or even desirable for the cleaning industry to move away from price-driven competition to other more value-adding bases of competition.

But the fact that the research reported in this case study took place at all indicates that at least some of the senior managers within the industry thought that the idea was worth serious investigation. Over an 18-month period we worked with this Board to help them think through and investigate the notion. However, it became clear that the companies were some way from achieving this move away from price-driven competition and had not managed to adapt their organisations to support such a shift. This relationship between a desired future strategy and business model and the current and historic organisational model (with its core components – a largely unskilled workforce, certain historic management styles and models) turns out to be very important.

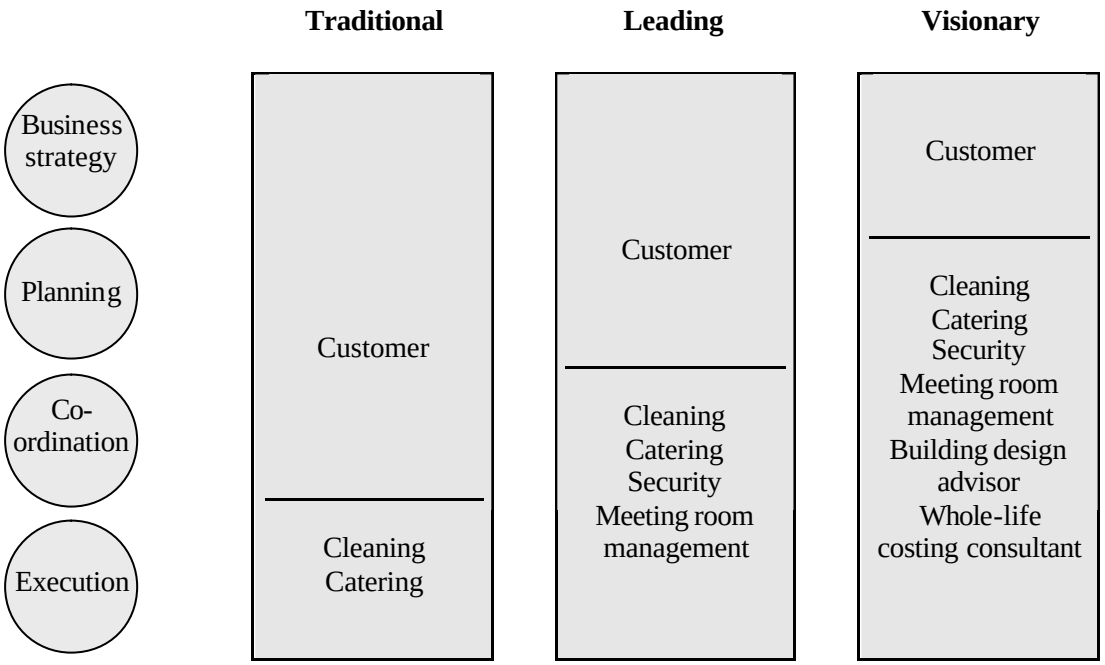
The case tells us not how firms are managing to compete within a knowledge-based sector (as with Eng-Con) but rather how firms in a sector that is not (yet) based on value-adding competition *seek to make the transition* towards being able to make these propositions to clients and how they struggle to make the necessary adaptations to develop and support and deliver such strategies.

The firm directors in the association were under no illusions about their industry, its dynamics and its reputation. While some of the leading contractors have made significant strides in recent years in raising the quality and competitiveness of their service offer (and their clients were aware of, and appreciated but also increasingly demand such developments) the industry as a whole suffers from a poor public image – an image which reflects significant parts of the industry – but as we found, with some very notable exceptions.

The industry, despite certain changes, is, and is seen as characterised by low status, low pay, low margins and low quality. The value-added is relatively low (though some of the more enterprising firms are finding their own ways to escape from this price-based, low margins model). There are very low entry barriers into the industry and an approach to contracting and tendering which impels a 'race to the bottom' with firms under-cutting each other on price to gain the business and clients using this to reduce costs. The model leads to a very low demand for skills.

However, some firms in the industry, as noted, have identified a potential market opportunity in escaping from this part of the market into a more value-adding territory. The nature of this conceptualisation is shown in Figure 1.

Figure 1: Actual and potential shifts in the business model in contract cleaning and associated services



The drive to move up the value chain away from the price based provision of cleaning services towards a wider range of services and towards a more planning management and even strategic contribution is driven in part by the directors' aspirations. It was driven also by other factors not least by their awareness of demands of the larger more sophisticated clients. The following were some major sources of pressure for change:

- Consolidation in the industry
- The move to larger contracts
- More professional management within the industry especially within the larger contractors
- New technology especially ICT
- Increasing demands from clients for integrated service provision
- Trade union, political and pubic pressure for change (e.g. campaigns against low pay and poor conditions in the industry targeted at high profile clients)

Firms within the industry were and are changing, often with competitive benefit, for such moves differentiated the firms which took them, and, as we will see clients were themselves pushing for change. The main business developments as indicated in Figure 1 above were:

- Expansion in the range of services
- 'Bundling' of services into packages
- Mergers and acquisitions, consolidation
- Increased professionalism of management
- Contractors investing substantially in training
- Contractors innovating with full-time rather than part time operatives
- Daytime cleaning rather than night time or twilight hours
- Interacting with and supporting clients staff and customers

In some ways carrying out cleaning during the day is more difficult since the office staff are in the way. But contractors who chose to do daytime cleaning did it deliberately to encourage the development of relationships between their staff and office staff and to make their workers *visible*. This was one of a number of ways in which the role, contribution, even identity and humanity of the cleaner could be improved and personalised. The more enlightened managers recognised that if the contribution (and value) of the cleaner was to be changed, one simple but important step was making them visible and enabling them to build relationships and arrangements with the end-users – office workers and in retail environments the shoppers. So, managers sought to enlarge the interface between contractor and client from contractor manager to client facilities manager to individual cleaner and office worker. In itself this could be seen as relatively trivial but it indicates a fundamentally different – and more sophisticated – understanding of the supplier/client relationship and an awareness of the need to widen and broaden and strengthen this key relationship: client management.

Increasingly clients are expecting or hoping that contractors will move in exactly the way described in Figure 1: moving from simply supplying services by carrying out operations to taking responsibility for planning and co-ordinating these services and for offering a wider range of services delivered in new ways and with new features. They

want contractors to be innovative in terms of the services offered, the management of these services, the role and contribution of management. One client, a facilities manager in an international pharmaceutical firm, mentioned how over time the cleaning contractor had trained its staff not simply to clean the laboratories but also gradually to take over some low level testing work within the laboratories thus liberating the technical staff for more demanding work. Another manager noted how the contractor had designed an effective ICT system whereby client managers received frequent and up-dated reports from the cleaning staff about the progress of the work and any issues which had arisen which needed attention. The introduction and benefits of daytime working have already been noted. Another client mentioned that the cleaning staff, although employed and managed by the contractor, wore the uniforms of the client firm and stressed that this had positive benefits for the role and contribution of the cleaning staff. But most of all they wanted to move away from the historic relationship with contractors whereby contractors, having won the cleaning contract largely on price had an interest in employing cheap unskilled labour and in managing the contract tightly to ensure margins: thus setting up an adversarial or low trust relationship with the client. Many clients wished to move away from this model (or claimed to want to move away from it).

With respect to changing client needs and expectations a facilities manager commented:

> We will be looking at how our contractor takes *proactive* responsibility to handle the growing pressures. I will not be pleased if they simply try to hide behind me. I want to see them leading. What new ideas do they have? What are they doing for their staff? I want them to come to me and tell me what is going on, about market intelligence. I don't want them simply to say please can you give more money to pay my cleaners.

The facilities managers recognised that contractors would have to change – radically – to be able to recognise and meet the new client expectations. But many clients also noted that contractors would probably find making (or even recognising the need for and designing) these changes difficult. Old, established routines and practices, skills and assumptions could obstruct both the recognition of the need for change and the ability to change.

Increasingly clients in this industry wanted more and different things from their contractors. In particular, they wanted value for money – not lowest cost but efficient and

effective working. They wanted to share the benefits of innovation and learning – not just at the time of the periodic contract tendering times.

The changes were both of type of service and level of contribution: horizontal diversification and vertical diversification. Horizontal changes – where the range of services offered is increased – were of a number of types. One type was where the suppliers of cleaning services could change the way they provide their traditional operation – office cleaning – for example, as noted, supplying this in new ways (day-working) or with new equipment and products or with new management supports (information systems). Another type of horizontal change was where the range of services was expanded and the contractor took responsibility for other facilities management activities: for example, reception or porter services or chauffeuring. Or the change could be not in the number of activities within a broadly accepted range of facilities management activities but involve a move into office administration services (photo-copying, printing, etc.) or low-skill support for production activities as in the case of the pharmaceutical company where staff from the cleaning contractor were trained to carry out the lower skill end laboratory activities. This final type of horizontal diversification involved the client using the cleaning staff (when suitably trained and when the relationship with the contractor was seen to merit such a development) to take over the relatively low skilled and routine range and type of operational activities.

Vertical diversification of cleaning contractor activities involved not an increasing range of operations but the transition from supplying services to taking responsibility for planning co-ordinating the range of services and, in advanced cases, developing and applying strategies for the most effective design and employment of these activities, thus liberating client management from these responsibilities and changing the nature of the client/contractor interface from one of wary and suspicious surveillance to one of clearly delegated and agreed responsibilities and outcomes within a partnership relationship.

The clients (or some of them) want a change from the historic nature of the client/contractor relationship. They want much more from their contractor. And the contractors too (or some of them at least – from our research) seem to have developed radically new sorts of relationships with their contractors; they have recognised this opportunity and have risen to it.

The 'high road' or high-value vision of the contribution, proposition, strategies and structures of the alternative new type of cleaning contractor has been indicated by the discussion above. It means a shift from the low-price, minimal service, low skill, adversarial contractor/client relationship to a series of inter-locked propositions including not only a wider range of services and management activities but also a different sort of relationship between contractor and client. But, achieving this new model, though widely desired by contractor management, required radically new ways of thinking and managing: new competences, new attitudes towards staff, more full-time staff, better trained and more motivated staff, capable team leadership and management able to work with client's management, more career structures within the contractors.

Nevertheless it was very evident that many contractors, although recognising the picture described above were unwilling or unable to make the transition. In terms of Figure 2 below – they were unable or unwilling to move from the historic 'low road' model to the 'high road' model.

Figure 2: Contrasts between the high road and low road business models

Low Road	**High Road**
Low status	Higher status
Low pay	Higher pay
Low cost emphasis	Business value emphasis
Low commitment	Higher commitment
High turnover	Lower turnover of staff
In the dark hours/out of sight	Daytime cleaning
Primitive technology	Advanced technology
Responsive	Proactive solutions; Advice on building design
Cowboy image	Professional image
'Just cleaning'	Integrated services (e.g. hotel-type suite of services)
Marginal part of customers business	Integral part

High performing companies in this sector, as in any other, are able to identify changes in the sector and to rise to the new demands these offer and to change the bases and rules of competition – and they do it themselves and this constitutes a sustainable basis of competitive differentiation. This truism applies to the companies in the Cleaning and Support Services Association (CSSA). Some had recognised the changing requirements of their clients and had developed new propositions and new ways of working – and new levels at which to work – and had made the appropriate changes in their organisations.

Identifying and understanding and meeting and exceeding clients' needs are essential to business success. Some firms in this sector are good at this: finding new product services (with higher margins) or delivering existing products in new and better ways. But many companies – perhaps most – were less good at making this change. They found it hard to move from their historic ways of competing, hard to believe that price is not still the bedrock of competition, hard to believe that a new less price-conscious, less adversarial management model was required (for their staff and for client relationships). They insisted that price was still the dominant criterion even though clients stressed to us that increasingly their concern was not price in an absolute sense but value for money where more innovative value-adding contractors could be more than a source of cost but assist the client organisation to achieve savings or benefits elsewhere.

Understanding – or anticipating – customers' needs and delivering on these propositions involve listening to and understanding customers, developing smart strategies and creating an organisation to deliver these. We heard that not all companies are good at these: conservative, introverted and slow to change. It was clear – to the contractors themselves very often – what was required:

- Better understanding of clients' changing needs
- Better strategic analysis and thinking
- A more pro-active and innovative approach not only to clients but to their own organisations
- Greater willingness – and ability – to change

But although these elements were widely discussed within the Association, many contractors remained unwilling or unable to move in the necessary directions even when they agreed such change was advantageous and necessary.

They realised that 'high performing' companies force or at least follow change in the bases of competition; and they recognise that this requires improved and different understanding of clients' needs (and being able to meet them). But they remained imprisoned by their historic mental models and assumptions, constrained not only by their unwillingness or inability to think in new ways about what their relationship with and propositions to clients and indeed to staff – but also limited by historic and organisational arrangements (management styles and professionalism, staff capacities, organisational systems and cultures – which seriously limited the capacity of the organisation and its staff to deliver anything other than low-cost, low-skill, provision of conventional and limited cleaning services.

4 Analysis of cases

The cases we have investigated add to our understanding of the ways in which directors thinking and assumptions shape the responses of firms to the new competitive conditions. The first case shows how managers in a firm offering professional technical consultancy designed organisational structures and processes which they believe will support a value-based strategy and set of business propositions and which will enable their firm to attract recruit, develop, motivate retain and deploy the talents and creativity of talented staff. This case not only offers insight into the ways in which the senior managers developed and supported value-adding strategies, it also shows the subtleties of the ways in which they sought to overcome and collapse some of the established polarities which govern thinking about organisational design – large/small; structured/organic; professional/managerial; innovative/operational by developing hybrid organisational forms. Most interesting of all is the ways in which these senior managers define the essential features of value-adding organisations – that they attract and retain and use talented people who combine knowledge with other critically important qualities about the way knowledge is used.

The second case presents a very different picture in a very different industry. Here the issue is less *how* to develop value-adding strategies and capabilities (although these are important questions). For the directors and senior managers the issue rather was whether this new business model was feasible. This case describes an industry that is changing. Although it is unlikely that it will ever achieve the similar degree of complexity as the engineering consultancy industry or ever require the degree of expertise that industry requires, nevertheless many clients in the cleaning sector stressed that they wanted more – and different – services from their contractors. And being able to meet the changing and more demanding requirements will require not only greater and different expertise from suppliers to support the new business propositions, it will also require expertise and skill to develop the new business propositions and the new organisational capacities that they will demand.

This is where the problems (for some firms at least) arise and are revealed – in being able to recognise and adapt to meet the emerging changes in the dynamics of competition away from simple (and often aggressive) price-based competition around the provision of basic cleaning services to clients, often viewed in adversarial terms, to a value-adding, differentiated and greatly enlarged range of services to clients, viewed in terms of partnership and shared benefits. Here the supplier is expected to 'get off the beaches' and establish positions and responsibilities within client management.

The cleaning contracts' case shows that under these circumstances some firms manage to make the radical adjustments required; others do not. Once again the crucial variable, in both cases, is managerial perceptions and interpretations.

The first case highlights the key role of Eng-Con senior management definitions of their competitive situation and the nature and role of their theories of management, which they bring to the design of appropriate talent-managing organisational structures and systems. The second case shows that the factor which differentiates between those cleaning companies which recognised and rose to the changing requirements of clients and those that did not, was management and the willingness and ability of managers to move beyond and overcome the established and historic assumptions, mindsets and practices, often deeply embedded not only in management thinking but also in organisational routines, relationships, and practices.

Probably the most important contribution of both these cases of how firms in two different sectors respond to the demands of a knowledge economy is that the key factor determining how and how well and indeed if, firms rise to the new demands of clients is not simply the expert technical knowledge they offer to deploy for and with clients but the more basic and often implicit and deeply held organisational knowledge of managers in the firms – knowledge which influences how and if the managers are able to make the adjustments the new economy requires.

5 Conclusions

This monograph suggests that what senior managers 'know' can impact negatively (as well as positively) on the performance of the firm, by affecting their ability to direct and modify the organisation. What is known, or features of the collective knowledge held by senior groups within the organisation, impacts on the capacity of the top team to learn and adapt including the firm's ability to respond appropriately to the pressures of the global knowledge economy.

Knowledge, it is widely asserted, is fundamental to the achievement of successful organisational performance in today's knowledge-based economy. Government spokespersons, academics, consultants – and to a lesser extent practising managers – agree that: 'knowledge, skills and creativity are needed above all to give the UK a competitive edge. These are the distinctive assets of a knowledge-driven economy.' (Secretary of State for Trade and Industry, 1998:2). In a 'knowledge-intensive environment' it is argued that firms must understand and enhance their knowledge assets and capabilities and deploy them in the development and achievement of strategies which understand and comply with the new bases of competition – using organisational knowledge to develop products processes or delivery channels which meet and exceed customers' dynamic expectations.

In the knowledge economy firms must be capable of moving through a series of stages each of which is essential to success, as they move from environmental analysis to strategy and finally to organisational capability. They must be able to recognise the shift in the nature and basis of competition and in consumer expectations; must be capable of developing strategies and business models whereby they can compete in the new

competitive landscape and finally they must translate these strategies into very new forms of organisation with new structural forms, new ways of relating to suppliers and customers and new and enhanced capacities to attract, retain and develop employees with new and greater quantities of knowledge and expertise.

However, there are reservations that need to be made about these claims. The first of these is that empirically the extent to which business organisations in the UK have embraced knowledge-centred business strategies or developed knowledge-based organisations has been exaggerated. In practice, as much of the literature review revealed, many firms have been slow, even loath and unable to move in the recommended direction. They remain locked-in to low-cost strategies and low skill jobs and practices.

Our case research described above focused not on the frequency or scale of UK firms' move towards knowledge-based strategies but on the *role* of organisational knowledge. We discussed the potentially problematic role of some types of organisational knowledge in allowing the shift that many writers on the knowledge economy advocate. The cases raise reservations about the role of organisational knowledge in contemporary organisations and the different ways in which knowledge in organisations can impact on the performance of organisations.

The research results revealed a paradox: the knowledge-economy narrative establishes organisational knowledge as central to organisational performance, yet under some circumstances, certain sorts of organisational knowledge can be detrimental to performance. Poor organisational performance can result not from the *absence* of knowledge but because of the knowledge which exists.

This paradox can be resolved in two ways. The first is to clarify and distinguish the type of knowledge that can be involved in obstructing the capacity of an organisation to recognise the need for change and the capacity to identify and realise the necessary changes to strategy and organisational forms. The argument from the requirements of the global knowledge economy emphasises *operational* knowledge – knowledge which is seen as inherently, even definitionally, positive. But the type of knowledge addressed in our research was *strategic* level knowledge. This is not simply knowledge *of* strategy or even the knowledge (of markets, of competitors, of opportunities and threats) which is implicit in a chosen strategy. It is the underlying sets of assumptions, beliefs and

propositions developed over time and tested and enshrined through application and success, which underpin decisions on, and discussions about, issues of strategy and organisation. This sort of knowledge can become gilded not only with certainty but also with morality and virtue and thus creates regimes of truth – sets of beliefs and established causal connections which define the world and the organisation and the links between the two – which establish sovereignty (although sometimes contested sovereignty) over key organisational issues and decisions: organisational direction, purpose and design.

These moralised regimes of truth can have negative or limiting consequences, not only in their own right (knowledge can be erroneous, incomplete flawed) but also because what is known can limit what is learned, what is held to be 'right' both practically and morally can limit the identification, discussion of assessment of new strategic options or new organisational designs. The knowledge held collectively by the top team can impact on the team's ability to discuss and agree new directions and structures.

Although, for many commentators, knowledge is the basis of organisational success, this monograph argues that under some conditions certain sorts of knowledge – senior level executive knowledge – can be obstructive. This is to challenge the assumption that organisational knowledge is necessarily and inevitably positive in its implications for organisational performance. In other words it is necessary to develop and use a slightly more complex and problematic notion of organisational knowledge, one that acknowledges that knowledge is 'a highly contentious concept, far too problematic to bear the weight of a useful theory of the firm without a clear statement of the epistemology which gives it meaning' (Spender 1996:48).

This monograph suggests – and illustrates – how senior managers' shared knowledge at the executive level may impact on the 'if and how' issues of organisational strategy. This knowledge shapes the ways in which questions of skills are approached, identified, discussed and resolved.

The question of the implications for the organisation of the knowledge which executives hold which underpins their views and decisions on organisational strategies and design is not something of interest only to organisations researchers and observers: it is also a crucially important issue to the executives themselves. This report explores the

ways in which debates about strategy and organisational forms are based on underlying knowledge (assumptions, values, theories, beliefs) held by members of the senior team and the ways in which these influence discussions and decisions about the future direction and form of the organisation.

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